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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/594,630	06/15/2000	Richard Anthony Marino	AUS000111US1	9667

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EXAMINER

SINGH, DALIP K

ART UNIT

PAPER NUMBER

2676

DATE MAILED: 11/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/594,630

Applicant(s)

MARINO, RICHARD ANTHONY

Examiner

Dalip K Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 18 September 2000 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent No. 6,137,497 to Strunk et al.

- a. Regarding claim 1, Strunk et al. **discloses** a method in a graphics adapter for displaying an object, the method comprising: receiving position coordinates (“eye” coordinates 110 (eye space)) and texture coordinates (“object” coordinates 108 (object space)) for the object; inverting a depth coordinate (modelview matrix (M^{-T}) associated with the position and the texture coordinates to form an inverted coordinate (concatenated PVD matrix ($PVD)^{-T}$); multiplying the position coordinates and the texture coordinates by the inverted coordinate to form adjusted position coordinates and adjusted texture coordinates (homogeneous window coordinates...col. 5, lines 38-40) (...model clipping planes are transformed from eye coordinates...to homogeneous window coordinates...by multiplying model clipping plane coefficients by the inverted...PVD matrix ...col. 5, lines 35-38); and displaying the object using the adjusted position coordinates and the adjusted texture coordinates (homogeneous window coordinates...col. 5, lines 38-40).
- b. Regarding claims 2-5, Strunk et al. **discloses** a graphics pipeline comprising: an input, wherein the input receives graphics data, wherein the graphics data includes

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position coordinates and a depth coordinate for an object; an output, wherein the output transmits processed graphics data; a plurality of processing elements (modelview matrix M 100, projection matrix P 102, perspective division 104, viewport and device matrices 106, Figure 1 & 6), wherein the plurality of processing elements generates the processed graphics data (window coordinates 116, Figure 1), wherein a first processing element within the plurality of processing elements is connected to the input and a last processing element within the plurality of processing elements is connected to the output (Figure 1), and wherein a selected processing element within the plurality of processing element receives the position coordinates and the depth coordinate, inverts the depth coordinate to form an inverted depth coordinate, and multiplies the position coordinates by the inverted depth coordinate; a first stage, wherein the first stage receives the position coordinates and the depth coordinate and inverts the depth coordinate; and a second stage, wherein the second stage multiplies the position coordinates by the inverted depth coordinate (Figure 1 & 6, col. 5, lines 19-49; col. 8, lines 22-67; col. 9, lines 1-27).

c. Regarding claim 11, it is similar in scope to claim 1 above and is rejected under the same rationale.

d. Regarding claim 12, it is similar in scope to claim 1 above and is rejected under the same rationale.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,137,497 to Strunk et al. as applied to claim 5 above, and further in view of U.S. Patent No. 5,862,356 to Normoyle et al.

a. Regarding claim 6, Strunk et al. **fails to disclose** processing of the position coordinates and the texture coordinates for an object occurs within five clock cycles. Normoyle et al. **discloses** the use of multiple system clock cycles for resolving bus contentions or slowing the system clock speed to complete processing in a system where the desired goal is to finish a request process within a clock cycle. Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the device as taught by Strunk et al. with the feature "optimization of processes to take minimum multiple system clock cycles" as taught by Normoyle et al. because it affords a means to increase processing efficiency (col. 2, lines 38-44).

5. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,137,497 to Strunk et al. in view of U.S. Patent No. 5,805,868 to Murphy.

a. Regarding claim 7, Strunk et al. **discloses** a graphics adapter comprising: an input configured to receive graphics data; a frame buffer, wherein processed graphics data is stored for display; and wherein the geometry engine (geometry accelerator, Figure 4) includes a set of processing elements in which a selected processing element within the set of processing elements receives position coordinates and a depth coordinate, inverts the depth coordinate to form an inverted depth coordinate, and multiplies the position coordinates by the inverted depth coordinate. Strunk et al. **does not explicitly disclose** a

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raster engine connected to the input and to the frame buffer, wherein the raster engine rasterizes the processed graphics data for display; and a geometry engine connected to the raster engine, wherein the geometry engine receives the graphics data from the raster engine, processes the graphics data to form the processed graphics data, and returns the processed graphics data to the raster engine. Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the device as taught by Strunk et al. with the feature "raster engine" as taught by Murphy because raster engine provides a means to display image data on the display device (col. 41, lines 32-35).

b. Regarding claim 8, it is similar in scope to claim 1 above and is rejected under the same rationale.

c. Regarding claim 9, it is similar in scope to claim 3 above and is rejected under the same rationale.

d. Regarding claim 10, it is similar in scope to claim 6 above and is rejected under the same rationale.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Dalip K. Singh** whose telephone number is (703) 305-3895. The examiner can normally be reached on Mon-Thu (8:00AM-6:30PM) Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Matthew Bella**, can be reached at (703) 308-6829.

Any response to this action should be mailed to:

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Commissioner of Patents and Trademarks

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or faxed to:


(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office whose telephone
number is (703) 305-0377.

dk

November 21, 2002


Matthew C. Bella
Primary Examiner